

General Specifications

Model NTPC001
Exaquantum
Sequence of Events Recorder



GS 36J40A10-01EN

■ PROBLEM

Unplanned incidents and equipment trips have the potential to cause equipment, fire and environmental damage, reductions in production rate and quality and in the worst case loss of life.

■ SOLUTION

Exaquantum Sequence of Events Recorder (Exaquantum/SER; hereafter referred to as 'SER') provides a centralized interface for users to access and analyze alarms & events and process data from a wide range of underlying systems. This data forms the basis for Root Cause Analysis (RCA) and trip analysis to lower or remove the possibility of future recurrences.

■ BENEFITS

- Integrated view of alarm and event messages provides users with visibility across the site for improved analysis
- Increases user efficiency when performing RCAs and trip analysis
- Allows past incidents to be further analyzed for failure patterns
- Regulatory compliance is supported by the availability of a detailed audit trail

■ KEY FEATURES

- Intuitive web user interface providing access to a centralized database of alarm and event messages
- At-a-glance overview of the latest events and trips
- Users can see the details surrounding trip occurrences
- Data can be exported to a .csv file for use in external applications, such as Microsoft Excel.
- Dashboard entry screen immediately highlighting areas of concern
- Access to custom filters via shortcut links

■ INTRODUCTION

SER accesses Exaquantum Historian Alarms & Events and process data that is being continuously collected and stored from all appropriate plant systems.

SER can configure trip conditions, allowing a trip to be created when an incident occurs for later analysis. All alarms, events and relevant process data for a given period of time, before and after the trip, is recorded, aiding users in determining the causes and knock-on effects of each trip.

In addition, SER acts as a sequence of events recorder (SOE) providing an integrated view of all the alarm and events suitable for performing RCAs.

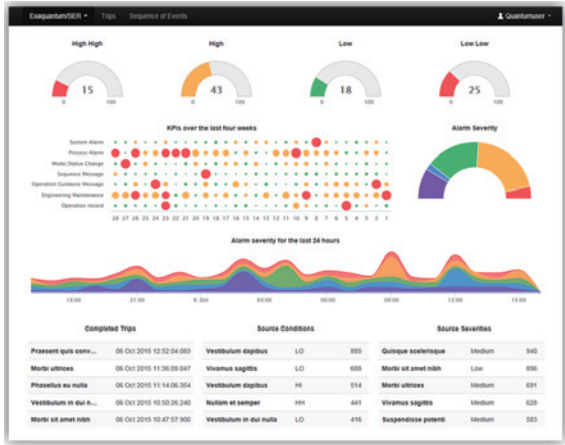


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CAPABILITIES

Web User Interface

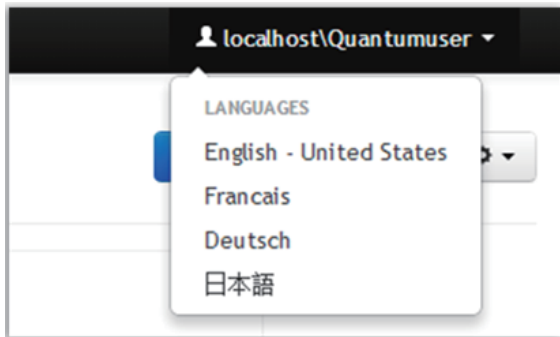
SER user access is provided via an intuitive web user interface, eliminating the need for specific client software. A central navigation area provides links to each of the reports, localization options and other Exaquantum products.



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Localization

The SER user interface allows seamless switching between installed languages. SER is provided with US English by default with support for additional languages on request – please contact your local Yokogawa office for more information.



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Highlight Critical Events

Providing the ability to highlight certain records based on a set of criteria improves the efficiency of searching through large volumes of alarm and events for specific entries. Filtering can reduce the number of entries but often it is the entries that lead up to specific events are as important. This is when highlighting the critical events is useful as the pre and post critical events can still be viewed.

Trip Detection

If trip detection is required, trip conditions are configured using SER's Trip Detection Configuration Tool, grouped by event source and category.

Each trip condition will have:

- A unique name and description
- One or more trip event conditions including optional process data
- Pre-trip and post-trip detection event time spans, such as 120 minutes before the trip detection and 60 minutes following the trip detection for which all events and process data will be recorded

Each received alarm and event is compared against the configured trip conditions and if a match occurs then a trip will be created with the trip monitor copying alarms & events and process data surrounding the trip into a dedicated secure area. Trip conditions can be optionally set to prevent more than one active trip at a time from occurring.

Date/Time	Type	Server	Source	Message	Category	Severity	Conditions
27 Sep 2015 22:58:34.310	SOE	AMD-301-ORCT	YFC1105	YFC1105	Flow Upper Link (SMA PV = 27.2 KGS) LL Receiver	900 LL	YFC1105
27 Sep 2015 22:58:34.310	SOE	AMD-301-ORCT	YFC1104	YFC1104	Flow Upper Link (SMA PV = 27.2 KGS) LL Receiver	900 LL	YFC1104
27 Sep 2015 22:58:34.310	SOE	AMD-301-ORCT	YFC1103	YFC1103	Flow Upper Link (SMA PV = 27.2 KGS) LL Receiver	900 LL	YFC1103
27 Sep 2015 22:58:34.310	SOE	AMD-301-ORCT	YFC1102	YFC1102	Flow Upper Link (SMA PV = 27.2 KGS) LL Receiver	900 LL	YFC1102
27 Sep 2015 22:58:34.310	SOE	AMD-301-ORCT	YFC1101	YFC1101	Flow Upper Link (SMA PV = 27.2 KGS) LL Receiver	900 LL	YFC1101
27 Sep 2015 22:58:21.310	SOE	AMD-301-ORCT	YFC1105	YFC1105	Flow Upper Link (SMA PV = 20.7 KGS) LL	900 LL	YFC1105
27 Sep 2015 22:58:21.310	SOE	AMD-301-ORCT	YFC1104	YFC1104	Flow Upper Link (SMA PV = 20.7 KGS) LL	900 LL	YFC1104
27 Sep 2015 22:58:21.310	SOE	AMD-301-ORCT	YFC1103	YFC1103	Flow Upper Link (SMA PV = 20.7 KGS) LL	900 LL	YFC1103
27 Sep 2015 22:58:21.310	SOE	AMD-301-ORCT	YFC1102	YFC1102	Flow Upper Link (SMA PV = 20.7 KGS) LL	900 LL	YFC1102
27 Sep 2015 22:58:21.310	TRIP	AMD-301-ORCT	YFC1101	YFC1101	Flow Upper Link (SMA PV = 20.7 KGS) LL	900 LL	YFC1101

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Date/Time	Trip Name	OPC Name	Source	Message	Category	Severity	Conditions	Trip Name
24 Feb 2015 09:28:00.000	YFC1101	CA001	YFC1101	YFC1101 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1101	YFC1101	YFC1101
24 Feb 2015 09:28:00.000	YFC1102	CA001	YFC1102	YFC1102 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1102	YFC1102	YFC1102
24 Feb 2015 09:28:00.000	YFC1103	CA001	YFC1103	YFC1103 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1103	YFC1103	YFC1103
24 Feb 2015 09:28:00.000	YFC1104	CA001	YFC1104	YFC1104 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1104	YFC1104	YFC1104
24 Feb 2015 09:28:00.000	YFC1105	CA001	YFC1105	YFC1105 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1105	YFC1105	YFC1105
24 Feb 2015 09:28:00.000	YFC1106	CA001	YFC1106	YFC1106 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1106	YFC1106	YFC1106
24 Feb 2015 09:28:00.000	YFC1107	CA001	YFC1107	YFC1107 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1107	YFC1107	YFC1107
24 Feb 2015 09:28:00.000	YFC1108	CA001	YFC1108	YFC1108 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1108	YFC1108	YFC1108
24 Feb 2015 09:28:00.000	YFC1109	CA001	YFC1109	YFC1109 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1109	YFC1109	YFC1109
24 Feb 2015 09:28:00.000	YFC1110	CA001	YFC1110	YFC1110 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1110	YFC1110	YFC1110
24 Feb 2015 09:28:00.000	YFC1111	CA001	YFC1111	YFC1111 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1111	YFC1111	YFC1111
24 Feb 2015 09:28:00.000	YFC1112	CA001	YFC1112	YFC1112 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1112	YFC1112	YFC1112
24 Feb 2015 09:28:00.000	YFC1113	CA001	YFC1113	YFC1113 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1113	YFC1113	YFC1113
24 Feb 2015 09:28:00.000	YFC1114	CA001	YFC1114	YFC1114 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1114	YFC1114	YFC1114
24 Feb 2015 09:28:00.000	YFC1115	CA001	YFC1115	YFC1115 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1115	YFC1115	YFC1115
24 Feb 2015 09:28:00.000	YFC1116	CA001	YFC1116	YFC1116 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1116	YFC1116	YFC1116
24 Feb 2015 09:28:00.000	YFC1117	CA001	YFC1117	YFC1117 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1117	YFC1117	YFC1117
24 Feb 2015 09:28:00.000	YFC1118	CA001	YFC1118	YFC1118 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1118	YFC1118	YFC1118
24 Feb 2015 09:28:00.000	YFC1119	CA001	YFC1119	YFC1119 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1119	YFC1119	YFC1119
24 Feb 2015 09:28:00.000	YFC1120	CA001	YFC1120	YFC1120 Flow Upper Link (SMA PV = 10.0 KGS) LL Receiver	900 LL	YFC1120	YFC1120	YFC1120

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Reports

The SER web user interface enables users to create both Sequence of Event (SOE) and trip reports that are highly customizable through the use of filters. The reports can be printed or exported for use in external applications such as Microsoft Excel. Report filter definitions can also be saved and reused, saving users time when running commonly used queries. The saved filter definitions can also be accessed via shortcut links.

Integration with Control and Safety Systems

The Exaquantum Historian collects and stores alarm and event messages and process data from control and safety systems into a centralized database providing SER users with a detailed picture of the overall plant activity.

Data Catch-up

Yokogawa has uniquely extended Exaopc's (Yokogawa's OPC Server) implementation of OPC HDA to include Historical Alarms and Events (HAE). This allows Exaopc to automatically buffer all alarm and event messages and process data that is received by Exaopc when the Exaquantum Historian is not available.

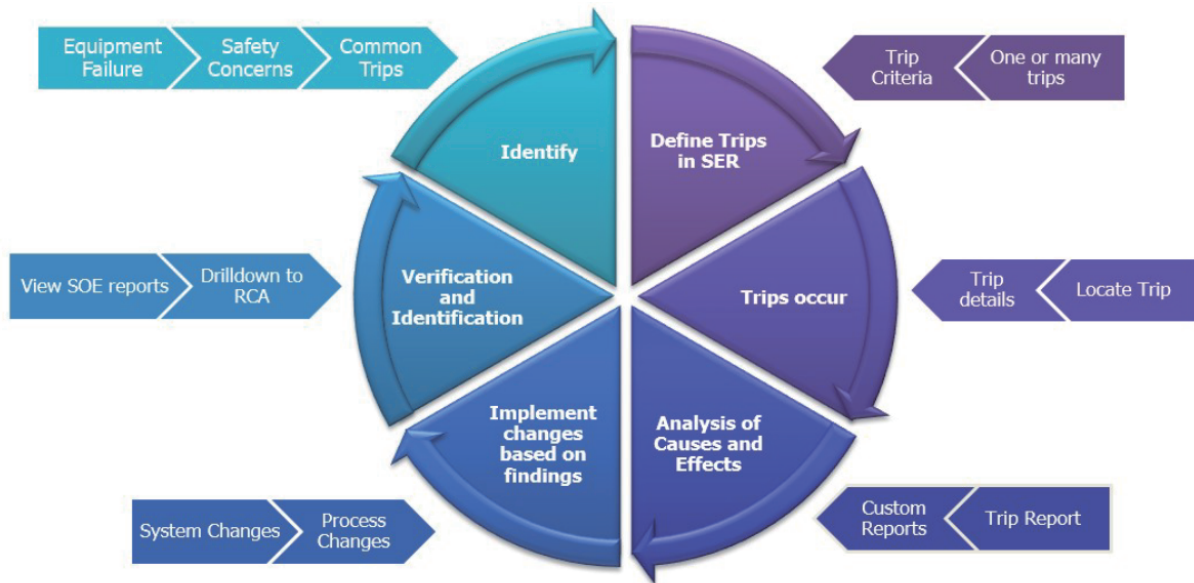
Once the connection has been restored, alarm and event messages and process data collected by Exaopc will be automatically passed to the Exaquantum Historian, allowing missing trips to be recognized by SER.

OPC Interfaces

The Exaquantum Historian can collect and store alarm and event timestamps with a time resolution of 1 millisecond for use by SER.

Alarms, events and process data received from non-Yokogawa OPC servers can be connected to the Exaquantum Historian.

Additionally, Yokogawa can supply custom Exaopc interfaces to provide missing capabilities such as OPC HDA for equipment supporting only OPC DA. An Exaopc interface is also available to convert OPC DA to OPC Alarm &Events.



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■ HARDWARE AND SOFTWARE REQUIREMENTS

Minimum Hardware and Software Specifications

Component	Minimum Hardware Specifications
Exaquantum/SER Server	As listed in the Exaquantum R3.01 GS 36J04A10-01E for an Exaquantum Server
Exaquantum/SER Web Server	As listed in the Exaquantum R3.01 GS 36J04A10-01E for an Exaquantum Web Server
Exaquantum/SER Web Clients	As listed in the Exaquantum R3.01 GS 36J04A10-01E for an Exaquantum Web Client

Component	Software Specifications
Exaquantum/SER Server	As listed in the Exaquantum R3.01 GS 36J04A10-01E for an Exaquantum Server
Exaquantum/SER Web Server	As listed in the Exaquantum R3.01 GS 36J04A10-01E for an Exaquantum Web Server
Exaquantum/SER Web Clients	As listed in the Exaquantum R3.01 GS 36J04A10-01E for an Exaquantum/Web Client

The Exaquantum/SER Release Notes provide exact details of the supported hardware and software

■ MODELS AND SUFFIX CODES

Exaquantum/SER Product

		Description
Model	NTPC001	Exaquantum/SER Product
Suffix Codes	-S	Basic Software License
	1	New Order (with Media)
	1	English version
	-SV□□	Enter the number of Exaquantum/SER Server Licenses (01 - 99)
	-SD□□	Sequence of Events Recorder 50% Server License Discount
	-WC□□	Enter the number of New per-seat Exaquantum/SER Web Client Licenses (01 - 99)
-WD□□	Enter the number of New per-seat Exaquantum/SER Web Client Licenses (01 - 99) discounted by 50%	

Maintenance Service for Exaquantum/SER

		Description
Model	NTMC001	Maintenance Service for Exaquantum/SER
Suffix Codes	-S	Annual Contract
	1	Always 1
	1	Always 1
	-SV□□	Enter the number of Exaquantum/SER Server Licenses (01 - 99)
	-WC□□	Enter the number of New per-seat Exaquantum/SER Web Client Licenses (01 - 99)

■ ORDERING INFORMATION

Specify the model and suffix codes.

■ TRADEMARKS

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